

AMENDMENTS TO THE CLAIMS

WHAT IS CLAIMED IS:

1. (Currently amended) A computerized system for analyzing student performance data and providing feedback based on the student performance data, the system comprising:

a computer network interface module configured to receive student performance data and transmit recommendation data via a computer network;

a data acquisition module configured to receive the student performance data from the computer network interface module and reformat the student performance data;

a performance analysis module configured to receive the reformatted student performance data from the data acquisition module and generate analysis data by analyzing the reformatted student performance data; and

a real-time feedback generation module configured to receive the analysis data from the performance analysis module and generate the recommendation data based on the analysis data, wherein the computer network interface module receives the recommendation data from the feedback generation module and transmits the recommendation data onto the computer network to a school official, wherein the recommendation data comprises a plurality of courses of action at the level of each class and school.

2. (Original) The system of Claim 1, wherein the student performance data indicates a source of the data.

3. (Original) The system of Claim 2, wherein the data source is a school, a teacher or a student.

4. (Original) The system of Claim 2, wherein the student performance data comprises indexing the data with codes that have been pre-assigned to the school, teacher or student.

5. (Original) The system of Claim 1, wherein the student performance data comprises a score achieved by the student on a performance evaluation, and wherein the performance evaluation is a game, a lesson, a quiz or a test.

6. (Original) The system of Claim 5, wherein the student performance data comprises encrypted information indicating a student, teacher, or school that is the source of the test data.

7. (Original) The system of Claim 5, wherein the game comprises a spatial temporal math video game.

8. (Original) The system of Claim 7, wherein the student performance data comprises a sequence of consecutive scores achieved by the student on the math video game.

9. (Original) The system of Claim 1, wherein the analysis data comprises a learning curve.

10. (Original) The system of Claim 1, wherein the computer network is the Internet.

11. (Original) The system of Claim 1, wherein the analysis data is stored on a relational database, and wherein statistical and data mining analysis is performed on the analysis data to determine a specific learning problem of the student and to generate a remedial recommendation.

12. (Original) The system of Claim 1, wherein the analysis data is stored on a relational database, and wherein statistical and data mining analysis is performed on the analysis data to determine one or more universals of learning encoded in the analysis data.

13. **(Currently amended)** A computerized system for analyzing student performance data and providing feedback based on the student performance data, the system comprising:

a student computer system configured to administer a spatial temporal performance evaluation and record student response data;

an education module configured to receive the student response data from the student system and generate student performance data indicative of ~~the level of the student's mastery of the subject matter~~ of the performance evaluation;

an analysis and feedback module configured to receive the student performance data from the education module and generate feedback data by performing an analysis of the student performance data, wherein the analysis of the student performance data identifies a level of the student's mastery of the subject matter, wherein the levels are 1) mastery of the subject matter has already been obtained, 2) mastery of the subject matter is being obtained, and 3) mastery of the subject matter is not being obtained; and

a school official computer system configured to receive the feedback data from the analysis and feedback module, wherein the feedback data comprises recommendations to a school official for enhancing student performance on subsequent performance evaluations, wherein the recommendations comprise a plurality of courses of action.

14. (Original) The system of Claim 13, wherein the performance evaluation is a game, a lesson, a quiz, or a test.

15. (Original) The system of Claim 14, wherein the game is a spatial temporal math video game.

16. (Original) The system of Claim 13, wherein the student performance data indicates a source of the data.

17. (Original) The system of Claim 13, wherein the student performance data comprises a score achieved by the student on a performance evaluation, and wherein the performance evaluation is a game, a lesson, a quiz or a test.

18. (Currently amended) The system of Claim 13, wherein the student performance data comprises encrypted information indicating a student, teacher, or school that is the source of the test data.

19. (Currently amended) A method of analyzing successive performances by a student for a computerized quiz and providing feedback based on the performances, the method comprising:

determining, via a computer system, whether a student score is above a threshold passing score to identify that the student has achieved a passing score on a quiz;

comparing the passing score of the student to at least one score obtained from at least one subsequent quiz;

determining, via the computer system, whether the student is authorized to progress to a next task of a curriculum or whether the student needs assistance from an instructor based on the comparison;

analyzing the passing score of the student and the at least one subsequent quiz score to generate a learning curve and determine whether a deviation in a learning rate exists;

calculating a best fit curve to the learning curve;

extrapolating the best fit curve to determine whether the threshold passing score will be reached within a maximum allotted number of times of taking the quiz; and

generating, via the computer system, feedback data based on the determination of whether the threshold passing score will be reached within the maximum allotted number of times of taking the quiz, ~~wherein the method is performed by one or more computing devices.~~

20. (Previously presented) The method of Claim 19, wherein the feedback data comprises recommending that the student continue taking the quiz, recommending that the instructor provide assistance to the student, or recommending that the student continue taking the quiz with further observation and reevaluation by the instructor.

21. (Original) The method of Claim 19, wherein the determining whether a deviation in a learning rate exists comprises graphing the quiz scores against the number of times the quiz is taken for the most recent day.

22. (Original) The method of Claim 21, wherein the determining whether a deviation in a learning rate exists further comprises comparing the quiz scores against the number of times the quiz is taken for all days the quiz is taken.

23. (Currently amended) A method of developing a computerized game for teaching mathematical concepts to a student, the method comprising:

determining a mathematical concept to be taught to a student;

formulating a basic spatial temporal test of the mathematical concept;

administering, via a computer system, the basic spatial temporal test to the student;

testing an initially designed game of the mathematical concept to obtain a progress curve of game scores;

analyzing the progress curve to determine whether it indicates successful learning and retention of the mathematical concept;

comparing a score on the initially designed game with a score on the basic spatial temporal test to determine whether the game score is commensurate with the test score;

administering, via the computer system, a diagnostic quiz of the mathematical concept to the student;

comparing the game score to a score on the diagnostic quiz to determine whether the game score is commensurate with the diagnostic quiz score;

determining that the game is deficient if the game score is not commensurate with the diagnostic quiz score;

determining adjustments to the game or the diagnostic quiz based on the comparison of the game score to the diagnostic quiz score if the game is deficient;

redesigning the game based on the adjustments to the game or the diagnostic quiz;
and

integrating the redesigned game into an educational curriculum, ~~wherein the method is performed by one or more computing devices.~~

24. (Previously presented) A computer readable storage medium having stored thereon instructions that when executed by a computer processor perform a method of analyzing successive performances by a student for a computerized game and providing feedback based on the performances, the method comprising:

determining whether a student score is above a threshold passing score to identify that the student has achieved a passing score on a quiz;

comparing the passing score of the student to at least one score obtained from at least one subsequent quiz;

determining whether the student is authorized to progress to a next task of a curriculum or whether the student needs assistance from an instructor based on the comparison;

analyzing the passing score of the student and the at least one subsequent quiz score to generate a learning curve and determine whether a deviation in a learning rate exists;

calculating a best fit curve to the learning curve;

extrapolating the best fit curve to determine whether the threshold passing score will be reached within a maximum allotted number of times of taking the quiz; and

generating feedback data based on the determination of whether the threshold passing score will be reached within the maximum allotted number of times of taking the quiz.

25. (Previously presented) The computer readable storage medium having stored thereon instructions that when executed by a computer processor perform the method of Claim 24, wherein the feedback data comprises recommending that the student continue taking the quiz, recommending that the instructor provide assistance to the student, or recommending that the student continue taking the quiz with further observation and reevaluation by the instructor.

26. (Previously presented) The computer readable storage medium having stored thereon instructions that when executed by a computer processor perform the method of

Claim 24, wherein the determining whether a deviation in a learning rate exists comprises graphing the quiz scores against the number of times the quiz is taken for the most recent day.

27. (Previously presented) The computer readable storage medium having stored thereon instructions that when executed by a computer processor perform the method of Claim 26, wherein the determining whether a deviation in a learning rate exists further comprises graphing the quiz scores against the number of times the quiz is taken for all days the quiz is taken.

28. (Previously presented) The system of Claim 1, wherein the plurality of courses of action comprises an optional course of action.

29. (Previously presented) The system of Claim 1, wherein the plurality of courses of action comprises a corrective course of action.

30. (Previously presented) The system of Claim 29, wherein the corrective course of action comprises repeating a level of a game.

31. **(Currently amended)** The system of Claim 13, wherein the plurality of courses of action comprise an optional course of action.

32. (Previously presented) The system of Claim 13, wherein the plurality of courses of action comprise a corrective course of action.

33. (Previously presented) The system of Claim 32, wherein the corrective course of action comprises repeating a level of a game.

34. (Previously presented) The system of Claim 13, wherein the education module is further configured to generate student performance data after each student response data received.

35. **(New)** The system of Claim 1, wherein the student performance data comprises a game result.

36. (New) The system of Claim 1, wherein one of the plurality of courses of action comprises a school principal making a personnel decision for a particular class based on the analysis data.

37. (New) The system of Claim 1, wherein one of the plurality of courses of action comprises a superintendent making a budget decision for a particular school based on the analysis data.

38. (New) The system of Claim 1, wherein one of the plurality of courses of action comprises the school official entering a command onto the computer network that enables a particular student to advance to a higher level of the game.

39. (New) The system of Claim 13, wherein the plurality of courses of action include having the school official review quiz-taking skills with the student and having the student review key words or phrases before retaking a quiz.

40. (New) The computer readable storage medium having stored thereon instructions that when executed by a computer processor perform the method of Claim 24, wherein each quiz can have a different minimum slope.

41. (New) A method of analyzing successive performances by a student for a computerized quiz and providing feedback based on the performances, the method comprising:

determining, via a computer system, whether a student score is above a threshold passing score to identify that the student has achieved a passing score on a quiz;

comparing the passing score of the student to at least one score obtained from at least one subsequent quiz;

determining, via the computer system, whether the student is authorized to progress to a next task of a curriculum or whether the student needs assistance from an instructor based on the comparison;

analyzing the passing score of the student and the at least one subsequent quiz score to generate a learning curve and determine whether a deviation in a learning rate exists;

calculating a best fit curve to the learning curve;

determining a slope of the best fit curve;

generating feedback data based on the determination of whether the slope of the best fit curve is greater or equal to a minimum slope for the quiz.

42. (New) A method of analyzing successive performances by a student for a computerized quiz and providing feedback based on the performances, the method comprising:

determining, via a computer system, whether a student score is above a threshold passing score to identify that the student has achieved a passing score on a quiz;

comparing the passing score of the student to at least one score obtained from at least one subsequent quiz;

determining, via the computer system, whether the student is authorized to progress to a next task of a curriculum or whether the student needs assistance from an instructor based on the comparison;

analyzing the passing score of the student and the at least one subsequent quiz score to generate a learning curve and determine whether a deviation in a learning rate exists;

comparing the learning curve of the student to a standard curve for the quiz, wherein each particular quiz has a corresponding standard curve;

generating feedback data regarding the stage of learning for the student based on the comparison.